

**Products and systems for the
protection and repair of concrete
structures - Test methods -
Determination of workability - Part 3:
Test for flow of repair concrete**

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of concrete structures - Test methods -
Determination of workability - Part 3: Test for flow of
repair concrete

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13395-3:2002 sisaldab Euroopa standardi EN 13395-3:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13395-3:2002 consists of the English text of the European standard EN 13395-3:2002.</p> <p>This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: Normal workability concrete mixes, which can include proprietary formulations, are applied and compacted in accordance with conventional practice. The workability of these products should be assessed using the slump, VeBe or other appropriate method given in EN 206-1. The workability of conventional high flow concrete mixes should be assessed by the method of EN 12358.</p>	<p>Scope: Normal workability concrete mixes, which can include proprietary formulations, are applied and compacted in accordance with conventional practice. The workability of these products should be assessed using the slump, VeBe or other appropriate method given in EN 206-1. The workability of conventional high flow concrete mixes should be assessed by the method of EN 12358.</p>
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ICS 91.080.40, 91.100.30

Võtmesõnad: area, binders : materials, material, mortars, processibility, production, products, protection, protection systems, reinforcement, reinforcement : structures, repair, repairs, sampling, sampling methods, structures, surfaces, testing

ICS 91.080.40; 91.100.30

English version

Products and systems for the protection and repair of concrete structures - Test methods - Determination of workability - Part 3: Test for flow of repair concrete

Produits et systèmes de protection et de réparation des structures en béton - Méthodes d'essai - Détermination de l'ouvrabilité - Partie 3: Essai d'écoulement du béton

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Prüfverfahren - Bestimmung der Verarbeitbarkeit - Teil 3: Prüfung des Fließverhaltens von Instandsetzungsbeton

This European Standard was approved by CEN on 4 January 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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Contents

	page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions.....	4
4 Principle	4
5 Equipment.....	4
6 Test procedure	5
7 Test report	5
Bibliography	7

Foreword

This document EN 13395-3:2002 has been prepared by Technical Committee CEN/TC 104 "Concrete and related products", the secretariat of which is held by DIN.

This document has been prepared by CEN/TC 104/SC8, "Product and systems for the protection and repair of concrete structures", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.

This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It describes a method for determining the workability of free-flowing repair concrete mixes.

It is one of a series of inter-related parts dealing with the workability of repair grouts, mortars and concretes. The other parts are:

- EN 13395-1, *Products and systems for the protection and repair of concrete structures – Test methods – Determination of workability – Part 1: Test for flow of thixotropic mortars* ;
- EN 13395-2, *Products and systems for the protection and repair of concrete structures – Test methods – Determination of workability – Part 2: Test for flow of grout or mortar* ;
- EN 13395-4, *Products and systems for the protection and repair of concrete structures – Test methods – Determination of workability – Part 4: Application of repair mortar overhead*.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

Normal workability concrete mixes, which can include proprietary formulations, are applied and compacted in accordance with conventional practice. The workability of these products should be assessed using the slump, VeBe or other appropriate method given in EN 206-1. The workability of conventional high flow concrete mixes should be assessed by the method of EN 12358.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 196-1, *Methods of testing cement – Part 1: Determination of strength*.

EN 206-1, *Concrete – Part 1: Specification, performance, production and conformity*.

EN 1504-1, *Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 1: Definitions*.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1504-1 and the following apply.

3.1

flow time

the time taken for a fixed volume of concrete to flow 750 mm along a trough

4 Principle

The principle of this test is to provide a relevant method to evaluate the workability of high flow repair concrete in the laboratory, which reflects the actual workability requirements for site concrete repair works. The test measures the time taken for a fixed volume of the concrete to flow 750 mm along a defined horizontal trough.

NOTE 1 High flow repair concretes are specially formulated mixes with a maximum aggregate size of 10 mm that are unsuitable for testing by normal workability tests (i.e. EN 206-1 or EN 12358).

NOTE 2 The method of test is sufficiently robust as to be suitable for use as a quality control technique in site laboratories.

5 Equipment

5.1 **Concrete mixer** as specified in EN 206-1.

5.2 **Flow trough and funnel** fabricated in accordance with Figure 1.

5.3 **Six Litre Measuring jug** capable of taking the required volume of concrete.

5.4 **Standard laboratory climate** of (21 ± 2) °C and (60 ± 10) % RH.

5.5 **Climatic chamber** for mixing and testing of the concrete at (5 ± 2) °C.